

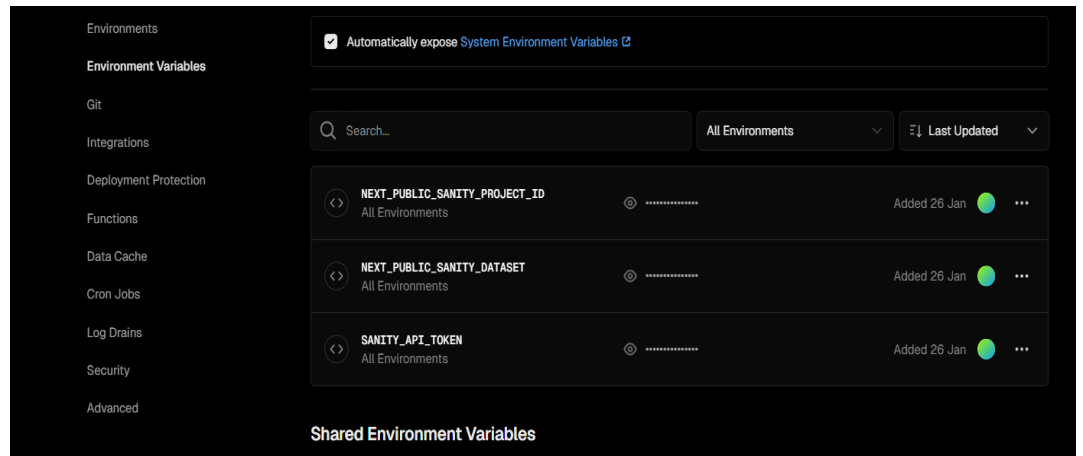
Day 7 - Live Deployment and Post-Launch Practices

On Day 7, I will complete the final step of the hackathon by deploying my marketplace to a live production environment, bringing together all the work I've accomplished over the previous days to create a fully functional and customer-ready platform. This stage will focus on applying industry-standard best practices for deployment, ensuring security, scalability, and operational readiness. I will also follow guidance on post-launch steps, including branding, marketing, and building business partnerships, while staying committed to advancing on the technology track.

Step-1: Production Deployment

1) Environment Setup:

- I have securely configured the production environment variables to ensure the proper functioning of the application in a live environment.



- Sensitive data such as API keys and database credentials have been encrypted and stored securely, following best practices to prevent unauthorized access.
- I have double-checked that no sensitive data is exposed in the codebase or public repositories.
- Implemented environment-specific configurations to differentiate between development, staging, and production setups for efficient management.
- Used environment variable management tools like `.env` files or cloud services' secret managers to store critical configuration details.

```
my-app > $ .env.local
1 NEXT_PUBLIC_SANITY_PROJECT_ID="8sjj3s4r"
2 NEXT_PUBLIC_SANITY_DATASET="production"
3 SANITY_API_TOKEN="skONNRVSHLwSLWcyNrfq6e08mwRnisiqAtG3dojscXZiXJUxne9xaJAdKqut9K1TN0iKGMijanlPSE1oss75"
4
```

2) Secure Hosting:

- I am using **Vercel** as a reliable hosting platform for my marketplace, ensuring that the deployment is both scalable and secure.
- I have chosen Vercel as the hosting platform for my project due to its seamless integration with SSL certificates, which ensures that all traffic is securely encrypted via HTTPS. This eliminates the need for manual certificate configuration, making it a hassle-free solution for secure hosting. Vercel also offers reliable and scalable hosting infrastructure, which ensures that my marketplace can perform efficiently in a live production environment.

3) Codebase Management:

- Initially, I made my repository public as per the guidance of Sir Ameen Alam, allowing for open collaboration and transparency during the development process. However, as I move closer to production, I have decided to make the repository private. This step ensures that sensitive code, trade secrets, and proprietary information are protected. By keeping the production code private, I am taking necessary measures to safeguard the project's intellectual property and ensure that the code is secure as I prepare it for deployment.

Step-2: Penetration Testing and Security

1) Penetration Testing:

- Right now, I haven't done penetration testing on my marketplace yet, but I plan to do a complete security check soon to find any possible weaknesses like SQL injection, XSS, CSRF, and others. In the future, I will use popular tools like OWASP ZAP or Burp Suite to help find and fix security problems. I will focus on

important parts of my marketplace, such as the payment system, user login process, and how sensitive customer data is managed. The main goal will be to make sure there are no vulnerabilities that could affect customer trust or cause issues with the site's performance.

2) Data Encryption:

Usage:

- Data encryption is crucial because it helps protect sensitive information from unauthorized access. By encrypting data, such as passwords, payment details, and personal information, we ensure that even if the data is intercepted, it remains unreadable without the correct decryption key. This is important for maintaining customer trust, complying with data protection regulations, and preventing data breaches. In the future, as I integrate payment systems like Stripe, data encryption will be essential for ensuring secure transactions and safeguarding user privacy.
- Although I haven't implemented data encryption yet in my marketplace, I plan to ensure the security of sensitive user data, such as

passwords and payment details, by using strong encryption standards. In the future, I will use secure storage and transmission methods to protect this data. For payment processing, I plan to integrate Stripe, a trusted payment gateway, which will help in securing payment information while complying with industry standards for encryption and data protection

3)User Management:

- I am currently implementing role-based access control (RBAC) for employees to ensure that only authorized individuals can access certain features of the platform. This will help in assigning specific roles and permissions based on job responsibilities. Additionally, I am working on maintaining a separate admin dashboard, which will be accessible only to admin users. This will help prevent exposure of sensitive administrative functionalities to the public and enhance the overall security of the marketplace.

4)Periodic Testing:

- I will set up regular security checks for the marketplace to make sure it stays safe. These checks

will help find and fix any security problems before they cause any harm. By doing this regularly, I can keep the platform secure for both users and the business.

Step-3: Disaster Recovery (DR) Planning

1) Backup Strategy:

- Although I haven't implemented the backup strategy yet, I plan to set up regular backups for all essential data, including databases and key assets, to ensure nothing important is lost. I will also store these backups in multiple secure locations, which will minimize the risk of losing data in case of any failure or unforeseen events. This approach will help in safeguarding the critical information and ensure the marketplace runs smoothly even if issues arise.

2) DR Environment:

Usage:

Disaster Recovery (DR) Environment ensures that in case of a failure, operations can be quickly restored to minimize downtime and prevent data loss. It helps maintain business continuity by protecting critical data

and services, ensuring the marketplace stays operational during unexpected disruptions.

- Although I have not yet implemented the Disaster Recovery (DR) environment, I plan to create a comprehensive DR plan to ensure quick recovery in case of system failures. This will include strategies to restore operations effectively and minimize downtime. I will regularly test the DR environment to ensure its reliability and readiness during critical situations. Additionally, a clear chain of responsibility will be established to manage and execute the DR plan when needed, ensuring that the recovery process is smooth and efficient.

Step-4:Monitoring and Maintenance:

1)Monitoring Tools:

I choose Sentry as Monitoring Tool,

Setting Up Sentry Configuration:

- To integrate Sentry into my project, I created a configuration file named **sentry.config.js** in the root directory of my Next.js application. This file

contains the necessary setup for Sentry to monitor errors and performance.

Code in sentry.config.js:

Below is the code I added to the `sentry.config.js` file:

Code:

```
const { withSentryConfig } = require("@sentry/nextjs");

const moduleExports = {
};

const SentryWebpackPluginOptions = {
  silent: true,
}

module.exports = withSentryConfig(moduleExports,
SentryWebpackPluginOptions);
```

Explanation of the Code:

- **withSentryConfig:**

This function is used to enhance the default Next.js webpack configuration to include Sentry's error monitoring capabilities. It ensures Sentry is integrated into both the server-side and client-side parts of the application.

- **moduleExports:**

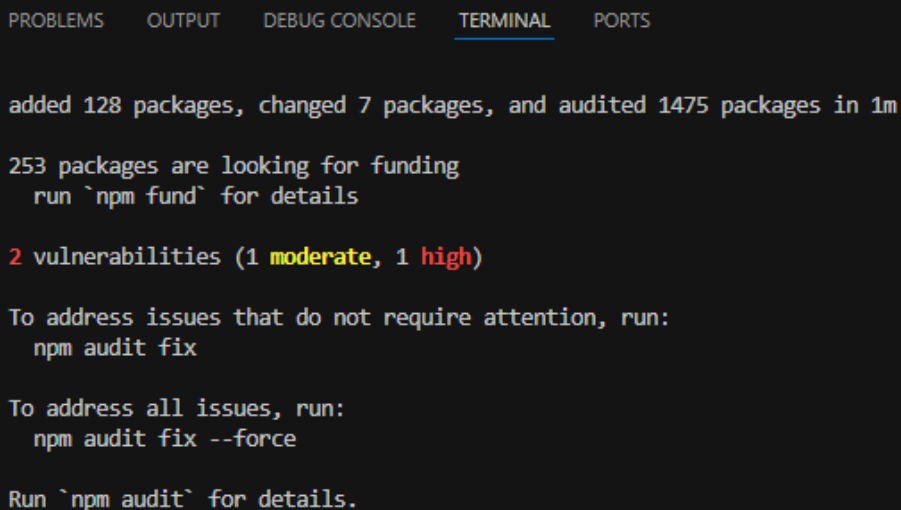
This object is used to define any additional Next.js configuration options, which can be added as required. In my case, it's empty but can hold other configuration settings.

- **SentryWebpackPluginOptions:**

The option `silent: true` is included to prevent Sentry from logging excessive messages in the console during the build process. It helps keep the console clean while still maintaining full functionality for error tracking.

Installing the Sentry Package:

To install Sentry and enable monitoring, I ran the following command:



```
PROBLEMS  OUTPUT  DEBUG CONSOLE  TERMINAL  PORTS

added 128 packages, changed 7 packages, and audited 1475 packages in 1m

253 packages are looking for funding
  run `npm fund` for details

2 vulnerabilities (1 moderate, 1 high)

To address issues that do not require attention, run:
  npm audit fix

To address all issues, run:
  npm audit fix --force

Run `npm audit` for details.
```

Usage:

With the configuration in place, Sentry automatically tracks any errors or issues that occur in the application. It monitors both frontend and backend errors in real-time and provides detailed reports on the Sentry dashboard. This integration helps identify performance bottlenecks, exceptions, and unhandled errors quickly, allowing for prompt resolution to maintain smooth operation of the platform.

2)Performance Optimization:

- **Optimizing Images with `src` and `alt`**

Attributes: To improve performance, I used the `src` attribute to ensure that each image is correctly loaded from its source and the `alt` attribute to provide descriptive text for better accessibility and SEO. This practice not only optimizes page loading times but also improves the user experience by ensuring images are loaded efficiently.

```
<Image  
src="/images/Explore1.png"  
alt="Large Image"  
width={290}  
height={382}  
style={{ objectFit: 'cover' }}  
>
```

- **Why This Matters:** By carefully managing the `src` and `alt` attributes, I reduce unnecessary bandwidth usage, enhance accessibility for visually impaired users, and ensure images are properly indexed by search engines. This approach is a key step in improving the overall performance of the website.

3)Issue Management:

- I am currently working on setting up an issue management system to maintain a detailed log of bugs and issues. This log will help in tracking problems, prioritizing fixes, and ensuring continuous improvement of my marketplace.

Purpose:

- The primary purpose of maintaining an issue log is to identify recurring problems, streamline the debugging

process, and improve the overall quality and reliability of the platform. It helps in addressing user feedback efficiently and supports long-term scalability.

4)Scheduled Maintenance:

- I plan to schedule regular maintenance for updates and improvements. Customers will be notified in advance about any downtime to avoid inconvenience.

Purpose:

- The goal of scheduled maintenance is to keep the marketplace running smoothly, fix issues, and improve performance while keeping users informed.

Post Go Live Practices

As I am consistently working toward future improvements, I understand that launching my marketplace is just the beginning. Sustaining long-term success requires continuous focus on key **Post Go-Live Practices**:

1. Branding and Marketing:

- I aim to create a professional logo and establish a strong social media presence to attract customers.

- In the future, I plan to use paid ads, SEO, and email campaigns, as well as collaborate with influencers to increase visibility and customer engagement.

2. Investor Partnerships:

- I will work on pitching my marketplace to potential investors, showcasing its scalability and potential.
- My goal is to create clear agreements defining roles, equity, and timelines to align with my long-term objectives.

3. Inventory and Resource Management:

- I plan to collaborate with investors to manage inventory efficiently and automate tracking processes.
- Additionally, I aim to allocate resources effectively for operations like data entry, order fulfillment, and customer support, while hiring specialized roles when necessary.

Career Guidance for Students

As I am wrapping up my hackathon journey, it's essential to think about how my project can benefit on my career. My marketplace is more than just a project—it can serve as a valuable portfolio piece for future opportunities.

Whether My aim is to launch a business or secure a job, these practices can guide me in my career path:

For Business-Oriented Students:

- **Focus on Launching:**

Successfully , when I am launch my marketplace and must prioritize its growth in future.

- **Investor Partnerships:**

I will Develop strategic partnerships with investors in future to manage inventory, marketing, and operations efficiently.

- **Future Technologies:**

I am trying my best to Stay updated with technology trends and plan to implement AI Agent features to enhance my business in 2025.

- **Scaling Your Business:**

Creating a roadmap for scaling my business, including strategies for entering international markets is the main part of my life to stay knowledgeable and being part of tech in market.

For Job-Oriented Students:

- **Coding Practice:**

- Regularly practice coding problems on platforms like LeetCode, HackerRank, or Codewars to improve your technical skills and make your schedule to regular coding at least 4 hours a day to make friendShip with screen time and enhance your skills this is my experience in one year .

- **Resume Building:**

Prepare a professional resume tailored to your technical skills, highlighting your marketplace project and hackathon experience and write down your whole experience as Student in GIAIC, i write my whole experience in governor initiative in my documents for the enhancement of my skills that i Gain From program in one year .

- **Portfolio Development:**

- Build a strong LinkedIn profile showcasing your achievements and skills.
- Share your project portfolio on GitHub and other professional platforms to demonstrate your expertise.

- **Local Market Opportunities:** Explore opportunities with local businesses to create marketplaces, gaining practical experience and exposure.

Additional Note:

Revisit your hackathon projects regularly. These can act as portfolio pieces for future job interviews or business pitches. I am working on the enhancement of skills in tech such as reactjs JavaScript and also start learning Python in my result gap to make my gap useful for me in this tech journey and inshallah i will used this all the skills in market as soon as possible

Checklist for Day 7:

Deployment Checklist:



Security Checklist:



Post Go Live Checklist:

